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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,518	07/12/2002	Joe F. Zhou	42390.P9657	2646

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EXAMINER
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NGUYEN, CINDY

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/018,518

Applicant(s)

ZHOU ET AL

Examiner

Cindy Nguyen

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/11/06 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 8, 22, 24, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Li (2002/0059161).

Regarding claims 1 and 22, Li discloses: A method and a machine-readable medium that provides instructions comprising:

receiving a search term for a query (paragraph 104, Li);

searching a network of concept terms for terms related to the search term, wherein each related term and the search term appear together in at least one sentence in a web page (paragraphs 0060-0062, 0072, 0077, Li);

reformulating the query using the search term and the related terms, before performing a search for documents based on the search term (paragraphs 0038, 0040, 0072, Li);

searching a local database for data terms that match the search term and the related terms, wherein the data terms are generated based on occurrence frequencies within a documents residing on websites located on servers connected to (0060, 0062, 0082, Li)

and in response to matching data terms with the search terms and related terms corresponding to the data terms, retrieving the documents from the respective websites (0072, 0091, 0102, Li).

Regarding claims 3 and 24, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. In addition, Li discloses: further comprising generating a summary of the documents for the searched terms that match the search term and the related terms (paragraphs 0092-0101, Li).

Regarding claim 4, all the limitations of this claim have been noted in the rejection of claim 3. In addition, Li discloses: wherein the summary includes the searched terms and a beginning portion of the documents (paragraphs 0092-0101, Li).

Regarding claim 8, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Li discloses: wherein related terms are more specific than the search term (paragraph 0072, Li).

Regarding claim 33, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Bowman discloses: wherein the data terms are generated based on mutual information associated with the search term and the related terms using a predetermined algorithm (paragraphs 0092-0101, Li)0060-0065, Li).

Regarding claim 34, all the limitations of this claim have been noted in the rejection of claim 1 above. In addition, Bowman discloses: wherein the mutual information is determined based on one or more weight factors of the search term and the related terms, the one or more weight factors representing occurrence frequencies of the respective search term, related terms and a combination of both search term and the related terms (paragraphs 0082-0101, Li).

*1. Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 5, 10-18, 23 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (2002/0059161) in view of Bowman (US 6169986).

Regarding claims 2 and 23, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. However, Li is silent to disclose: displaying the retrieved documents, the search terms and the related terms, wherein at least one of the related terms includes a link, when activated, a further search of concept terms is conducted and one or more further related terms are presented, and wherein searching the local database and retrieving the documents are literally performed based on the further related terms. On the other hand, Bowman discloses: further comprising displaying the retrieved documents, the search terms and the related terms, wherein at least one of the related terms includes a link, when activated, a further search of concept terms is conducted and one or more further related terms are presented, and wherein searching the local database and retrieving the documents are literally performed based on the further related terms (col. 14, lines 10-25, Bowman). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include displaying the retrieved documents, the search terms and the related terms, wherein at least one of the related terms includes a link, when activated, a further search of concept terms is conducted and one or more further related terms are presented, and wherein searching the local database and retrieving the documents are literally performed based on the further related terms in the system of Li as taught by Bowman. The motivation being to enable the system provide the interface to display the hyperlink in the query result page, these links is formed by combining the user's query with a related term , the user can select these links by clicking and retrieve the documents.

Regarding claim 5, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Li/Bowman discloses: wherein the network is the Internet (120, fig. 1, Bowman).

Regarding claims 10 and 27, all the limitations of these claims have been noted in the rejection of claims 1, 2. It is therefore rejected as set forth above. In addition, Li/Bowman discloses: displaying results of the searching of the local database, and displaying the search term and the related terms (col. 14, lines 10-25, Bowman).

Regarding claims 13 and 30, all the limitations of these claims have been noted in the rejection of claims 10 and 27 above, respectively. In addition, Li/Bowman discloses: wherein reformulating the new query includes combining the new search term and the new related terms together using search operators (0082, Li).

Regarding claims 11 and 28, all the limitations of these claims have been noted in the rejection of claims 10 and 27 above, respectively. In addition, Li/Bowman disclose: wherein receiving the search term for the query includes receiving the search term for the query based on the displaying of the search term and the related items in a prior process (col. 6, lines 47-60, Bowman).

Regarding claims 12, 16 and 29, all the limitations of these claims have been noted in the rejection of claims 10, 15 and 27 above, respectively. In addition, Li/Bowman discloses: wherein the new search term is a related term from a prior search of the network of concept terms (paragraphs 0072, Li).

Regarding claims 15, all the limitations of these claims have been noted in the rejection of claims 1, 10. It is therefore rejected as set forth above.

Regarding claim 17, all the limitations of this claim have been noted in the rejection of claims 15 and 13 above. It is therefore rejected as set forth above.

Regarding claim 14, all the limitations of this claim have been noted in the rejection of claim 13. In addition, Li/Bowman discloses: wherein the search operators are selected from the group consisting of AND, OR, NOT and NEAR, wherein the NEAR operator is satisfied when the new search term and at least one of the new related terms occur within a predetermine number of words within a sentence of a document (paragraph 0082, Li).

Regarding claim 18, all the limitations of this claim have been noted in the rejection of claims 17 and 14 above. It is therefore rejected as set forth above.

3. Claims 6, 7, 9, 19-21, 25, 26, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman (US 6169986) in view of Braden-Harder et al. (U.S 5933822) (Braden).

Regarding claims 6 and 25, all the limitations of these claims have been noted in the rejection of claims 1 and 22 above, respectively. However, Li/Bowman didn't disclose: wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationship. On the other hand, Braden discloses: wherein the network of concept terms includes links between related terms, wherein the links are based on semantic relationship (col. 11, lines 41-60, Braden).



Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include links between related terms, wherein the links are based on semantic relationship in the system of Bowman as taught by Braden. The motivation being to provide a logical form in a method which is a directed acrylic graph in which words representing text of any arbitrary size are linked by labeled relations, a logical form portrays semantic relationships between important words in a phrase, which may include hypernyms and/or synonyms thereof.

Regarding claim 19, Li/Bowman /Braden discloses an apparatus comprising: a database that includes data terms, wherein the data terms are from documents residing on websites located on servers across a network (col. (col. 5, lines 62 to col. 6, lines 6, Bowman); a concept network that: includes search terms and related terms that are linked together based on semantic relationships (col. 11, lines 41-60, Braden), the search terms and the related terms to locate portions of the documents based on a match between the searchable term, and the related terms and the data terms stored in the database (col. (col. 6, lines 31-60, Bowman).

Regarding claims 7, 20 and 26 , all the limitations of these claims have been noted in the rejection of claims 1, 19 and 22 above, respectively. In addition, Li/Bowman Braden discloses: wherein the semantic relationships are selected from a group consisting of canonical (logical form), synonym, hyponym, hypernym, part (col. 11, lines 41-51, Braden), product and member (col. 11, lines 41-51, Braden).

Regarding claim 9, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Li/Bowman /Braden discloses: wherein different emphasis is placed on the related terms (col. 7, lines 35 to col. 8, lines 6, Braden).

Regarding claim 21, all the limitations of this claim have been noted in the rejection of claims 19 and 8 above. It is therefore rejected as set forth above.

Regarding claim 31, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Li/Bowman/ Braden discloses: wherein the related terms are different than the search term and have similar meaning to the search term (col. 11, lines 41-51, Braden).

Regarding claim 32, all the limitations of this claim have been noted in the rejection of claim 1. In addition, Li/Bowman /Braden discloses: wherein the search term includes a name of an organization, and wherein the related terms include at least one of a name of subsidiaries of the organization, a product name of the organization, and a stock symbol of the organization (col. 11, lines 41-51, Braden).

### ***Allowable Subject Matter***

Claims 35 is would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Claim 35 is allowable because the prior art of record or that encountered in searching for the invention,

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fails to disclose or suggest wherein the mutual information (MI) of the first term  $x$  and the second terms  $y$  is determined by  $M1(x, y) = f(x, y) / f(x) + f(y) - f(x, y)$ , wherein  $f(x, y)$  corresponds to an occurrence frequency of both search term and the related terms, wherein  $f(x)$  corresponds to an occurrence frequency of both the first term and the second term, wherein  $f(y)$  corresponds to an occurrence frequency of the second terms.

#### **4. Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on M-F: 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gaffin Jeffrey can be reached on 571-272-4160. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Cindy Nguyen  
June 19, 2006



FRANTZ COBY  
PRIMARY EXAMINER